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Keita Ohshima

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EXAMINER

RILEY, MARCUS T

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,026	Applicant(s) OHSHIMA, KEITA	
	Examiner MARCUS T. RILEY	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 7-15, 18 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6, 16, 17, 19-21 and 23-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/27/2007; 06/23/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 11, 2008 has been entered.

Response to Amendment

2. This office action is responsive to applicant's remarks received on November 11, 2008. **Claims 1-26** are pending. **Claims 2-4, 7-15, 18 & 22** have been cancelled.

Response to Arguments

3. Applicant's arguments with respect to amended **claims 1, 6, 17, 19, 21, 23, 25 & 26** filed on November 11, 2008 have been fully considered but they are not persuasive. **Claims 2-4, 7-15, 18 & 22** have been cancelled.

A: Applicant's Remarks

Applicant submits that Takahashi '999 and Takahashi '245, whether taken alone or in combination, fail to disclose or suggest all of the features of Claim 1. In particular, Takahashi '999 and Takahashi '245, whether taken alone or in combination, fail to disclose or suggest at

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least the features of a reception means for receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document and a designation means for designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction and a print control means that controls distribution printing in accordance with a designation executed by the designation means as featured in Claim 1.

Therefore, even if Takahashi '999 and Takahashi '245 were combined, which Applicant does not concede is permissible, such a combination would simply disclose executing distributed monochromatic or color printing, wherein it is designated for each page whether the page is to be distributed to a monochromatic printer or a color printer. The designation would be made by (a) analyzing the page to discriminate whether or not the page includes a color image or (b) designating the distribution of each page on a print setting screen. Such a combination, however, would not disclose or suggest that the print job is composed of a job ticket and a print document, nor that a designation means designates, in response to a user instruction, either one of a first mode in which the distribution printing of the print document is executed by analyzing the print document and a second mode in which the distribution printing is executed based on print instruction information described by the job ticket, nor that the print control means controls the distribution printing of the print document either in the first mode or in the second mode in accordance with a designation executed by the designation means as featured in Claim 1.

In light of this deficiency in Takahashi '999 and Takahashi '245, Applicant submits that Claim 1 is now in condition for allowance and respectfully requests same.

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Claims 6, 7, 21, 25 and 26 are directed to a method of managing an apparatus, a system, a method of managing a system, a computer readable medium for an apparatus and a computer readable medium for a system, respectfully, substantially in accordance with Claim 1. Accordingly, Applicant submits that Claims 6, 7 21, 25 and 26 are also in condition for allowance and respectfully request same.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed allowable for at least the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

A: Examiner's Response

1. Examiner submits that Takahashi '999 and Takahashi '245, whether taken alone or in combination does not fail to disclose or suggest all of the features of Claim 1. In particular, Takahashi '999 and Takahashi '245, whether taken alone or in combination, teaches, discloses or suggest...

a reception means for receiving a print job which includes a job ticket and a print document via the communication medium the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document ("...using the printer driver tab as in FIG. 22, by selecting

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which apparatus to use among the color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job." Takahashi '999 at column 15, lines 39-43):

and a designation means for designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document *"Here, the job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.*" Takahashi '999 at column 8, lines 50-55);

and a print control means that controls distribution printing in accordance with a designation executed by the designation means (*"It is another object of the present invention to provide an image processing apparatus and an image processing system and a control method therefor, an image data processing method, an image forming apparatus and a control method therefor, a controller, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs..."* column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..."* Takahashi '245 at column 2, lines 16-26);

2. Takahashi '999 and Takahashi '245 as combined teaches, discloses or suggests that the print job is composed of a job ticket and a print document, a designation means designates, in response to a user instruction, either one of a first mode in which the distribution printing of the print document is executed by analyzing the print document and a second mode in which the distribution printing is executed based on print instruction information described by the job ticket, the print control means controls the distribution printing of the print document

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either in the first mode or in the second mode in accordance with a designation executed by the designation means as featured in Claim 1. See Examiner's explanation above or see 35 U.S.C. 103(a) rejection below.

3. Takahashi '999 alone or in combination with Takahashi '245 teaches, discloses or suggests the applicant's claimed invention , Accordingly, Examiner submits that Claim 1 is not in condition for allowance.

4. Claims 6, 7, 21, 25 and 26 are directed to a method of managing an apparatus, a system, a method of managing a system, a computer readable medium for an apparatus and a computer readable medium for a system, respectfully, substantially in accordance with Claim 1.

Accordingly, Examiner submits that Claims 6, 7, 21, 25 and 26 are also not in condition for allowance.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore are not allowable for at least the same reasons.

In view of the foregoing, Examiner submits that the application is not in condition for allowance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 1, 6, 17, 20, 21, 24, 25 & 26** rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US 6,727,999 B1 hereinafter, Takahashi '999) in combination with Takahashi (US 6,985,245 B1 hereinafter, Takahashi '245).

Regarding claim 1; Takahashi '999 discloses a print managing apparatus which is connected to a plurality of printing apparatuses including a monochromatic printing apparatus via a communication medium, the print managing apparatus comprising (See Figure 1 where *"Further, MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101. Numeral 104 is a color MFP capable of full color scanning, printing and the like. Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-mentioned MFP's such as scanners, printers, faxes or the like are connected to the network 101."* column 3, lines 9-16); See also (*"Moreover, the computers 102 and 103 have utility softwares which function by receiving the information such that the MFP's 104 and 105 can be managed by the computers 102 and 103."* column 3, lines 28-31):

reception means for receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job."* column 15, lines 39-43):

designation means for designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document *"Here, the job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge."* column 8, lines 50-55);

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reading means for reading the job ticket included in the print job received by said reception means (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"The utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks..."* column 14, line 59-60) (*"When pressing the OK key 21508 in a job ticket screen, a job utility screen as in FIG. 22 is displayed..."* column 15, line 12-13).

Takahashi '245 does not expressly disclose a print control means for controlling distribution printing in accordance with a designation executed by said designation means; wherein said print control means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said reading means in the second mode.

Takahashi '245 discloses print control means for controlling distribution printing in accordance with a designation executed by said designation means (*"It is another object of the present invention to provide an image processing apparatus and an image processing system and a control method therefor, an image data processing method, an image forming apparatus and a control method therefor, a controller, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs..."* column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the*

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output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..." column 2, lines 16-26);

wherein said print control means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (*"The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are distributed to a plurality of image forming apparatuses for printing) where a plurality of output devices, that is, the MFP 104 or 105 or the printer 107 simultaneously print and output data based on a command from the document server 102. For example, of plural pages of printing data included in one group, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and output by the monochrome MFP 105."* column 25, lines 20-31);

and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode (See figures 26 & 35 *"When the result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22 or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), the color page-corresponding paper inserting mode is executed. That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and the color data are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device."* column 27, lines 54-67 thru column 28, lines 1-5).

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems (*"To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes..."* Takahashi '245 at column 3, lines 30-36).

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding a print control means for controlling distribution printing in accordance with a designation executed by said designation means; wherein said print control means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently (*"...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently."* Takahashi '245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi '999 with Takahashi '245 to obtain the invention as specified in claim 1.

Regarding claim 6; Takahashi '999 discloses a print managing method for a print managing apparatus which is connected to plurality of printing apparatuses including a monochromatic printing apparatus and a color printing apparatus via an communication medium, comprising: (*"Further, MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101. Numeral 104 is a color MFP capable of full color scanning, printing and the like. Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-mentioned*

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MFP's such as scanners, printers, faxes or the like are connected to the network 101." column 3, lines 9-16); See also ("*As a mechanism to inform successively the computers 102 and 103 side, on the information and the status of the MFP's 104 and 105, the MFP's 104 and 105 respectively are provided with communication means which allows data exchange with the computers 102 and 103 through the network 101. Moreover, the computers 102 and 103 have utility softwares which function by receiving the information such that the MFP's 104 and 105 can be managed by the computers 102 and 103.*" column 3, lines 23-31);

a receiving step of receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document ("*...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job.*" column 15, lines 39-43);

designating step of designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document "*Here, the job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.*" column 8, lines 50-55);

a reading step of reading the job ticket included in the print job received in said receiving step (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document ("*The utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks...*" column

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14, line 59-60) (“When pressing the OK key 21508 in a job ticket screen, **a job utility screen as in FIG. 22 is displayed...**” column 15, line 12-13).

Takahashi ‘999 does not expressly disclose a print control means for controlling distribution printing in accordance with a designation executed in said designating step; wherein said print control means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode.

Takahashi ‘245 discloses print control step for controlling distribution printing in accordance with a designation executed in said designating step (“It is another object of the present invention to provide an image processing apparatus and an image processing system and a **control method therefor**, an image data processing method, an image forming apparatus and **a control method therefor, a controller**, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs...” column 2, lines 16-26); See also (“...in this mode, **printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.**), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, **the output device control section 1206 monitors a state of the output device** or devices to obtain a device status. ...” column 2, lines 16-26);

wherein said print control step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (“The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are **distributed to a plurality of image forming apparatuses for printing**) where a plurality of output devices, that is, the MFP 104 or

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*105 or the printer 107 simultaneously print and output data based on a command from the document server 102. **For example, of plural pages of printing data included in one group, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and output by the monochrome MFP 105.***" column 25, lines 20-31);

and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode (See figures 26 & 35 "*When the result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, **based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22** or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), **the color page-corresponding paper inserting mode is executed.** That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and **the color data are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device.***" column 27, lines 54-67 thru column 28, lines 1-5).

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems ("*To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes...*" Takahashi '245 at column 3, lines 30-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding a print control step for controlling distribution printing in accordance with a designation executed in said designating step; wherein said print control step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document

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through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently ("*...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently.*" Takahashi '245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi '999 with Takahashi '245 to obtain the invention as specified in claim 6.

Regarding claim 17; Takahashi '999 discloses a print system including a print managing apparatus and a plurality of printing apparatuses including a monochromatic printing apparatus and a color printing apparatus connected via a communication medium the print managing apparatus comprising ("*Further, MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101. Numeral 104 is a color MFP capable of full color scanning, printing and the like. Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-mentioned MFP's such as scanners, printers, faxes or the like are connected to the network 101.*" column 3, lines 9-16); See also ("*As a mechanism to inform successively the computers 102 and 103 side, on the information and the status of the MFP's 104 and 105, the MFP's 104 and 105 respectively are provided with communication means which allows data exchange with the computers 102 and 103 through the network 101. Moreover, the computers 102 and 103 have utility softwares which function by receiving the information such that the MFP's 104 and 105 can be managed by the computers 102 and 103.*" column 3, lines 23-31);

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reception means for receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (“...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the **color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job.**” column 15, lines 39-43):

designation means for designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document “Here, the **job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.**” column 8, lines 50-55);

reading means for reading the job ticket included in the print job received by said reception means (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (“The **utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks...** column 14, line 59-60) (“When pressing the OK key 21508 in a job ticket screen, a **job utility screen as in FIG. 22 is displayed...**” column 15, line 12-13).

Takahashi ‘999 does not expressly disclose a print managing means for managing distribution printing in accordance with a designation executed by said designation means; discloses wherein said print managing means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print

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document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said reading means in the second mode.

Takahashi '245 discloses a print managing means for managing distribution printing in accordance with a designation executed by said designation means (*"It is another object of the present invention to provide an image processing apparatus and an image processing system and a **control method therefor**, an image data processing method, an image forming apparatus and **a control method therefor, a controller**, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs..."* column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..." column 2, lines 16-26);*

wherein said print managing means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (*"The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are **distributed to a plurality of image forming apparatuses for printing**) where a plurality of output devices, that is, the MFP 104 or 105 or the printer 107 simultaneously print and output data based on a command from the document server 102. For example, of plural pages of printing data included in one group, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and **output by the monochrome MFP 105.**"* column 25, lines 20-31);

and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said read means in the second mode (See figures 26 & 35 *"When the*

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*result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, **based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22** or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), **the color page-corresponding paper inserting mode is executed**. That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and **the color data are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device.**" column 27, lines 54-67 thru column 28, lines 1-5).*

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems ("To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes..." Takahashi '245 at column 3, lines 30-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding a print managing means for managing distribution printing in accordance with a designation executed by said designation means; discloses wherein said print managing means executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read by said reading means in the second mode as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for

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the operator, and allow the operator to work more efficiently (“...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently.” Takahashi ‘245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi ‘999 with Takahashi ‘245 to obtain the invention as specified in claim 17.

Regarding claim 20; Takahashi ‘999 as modified does not expressly disclose wherein the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket.

Takahashi ‘245 discloses wherein the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket (“*The user checks the setting contents and if they are correct, operates an OK key 1804 to transmit the printing job (including command data indicative of commands input by the user via the operation screens shown in FIGS. 20, 21, 22, and other figures, image data to be printed, and other data) directly to the document server 102. On receiving the printing job, the document server 102 controls the MFPs 104 and 105 to perform operations based on the commands from the user. To cancel the setting contents of the job ticket, the user can operate the cancel key 1805 to stop or suspend the process. The user can also make various settings for clustering, described later, as well as other settings (including various operation modes described later with reference to FIGS. 27, 28, 33, 35, 36, and other figures), using operation screens such as those shown in FIGS. 20, 21, and 22.*” column 23, lines 53-67).

Takahashi ‘999 and Takahashi ‘245 are combinable because they are from same field of endeavor of network printer systems (“*To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes...*” Takahashi ‘245 at column 3, lines 30-36).

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding wherein the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently (*"...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently."* Takahashi '245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi '999 and Takahashi '245 to obtain the invention as specified in claim 17.

Regarding claim 21; Takahashi '999 discloses a print managing method for a print managing system including a print managing apparatus and a plurality of printing apparatuses including a monochromatic printing apparatus and a color printing apparatus connected via a communication medium, the method comprising (*"Further, MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101. Numeral 104 is a color MFP capable of full color scanning, printing and the like. Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-mentioned MFP's such as scanners, printers, faxes or the like are connected to the network 101."* column 3, lines 9-16); See also (*"As a mechanism to inform successively the computers 102 and 103 side, on the information and the status of the MFP's 104 and 105, the MFP's 104 and 105 respectively are provided with communication means which allows data exchange with the computers 102 and 103 through the network 101. Moreover, the computers 102 and 103 have*

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utility softwares which function by receiving the information such that the MFP's 104 and 105 can be managed by the computers 102 and 103." column 3, lines 23-31);

a receiving step of receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job.*" column 15, lines 39-43);

designating step of designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document *"Here, the job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.*" column 8, lines 50-55);

a reading step of reading the job ticket included in the print job received in said receiving step (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"The utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks...* column 14, line 59-60) (*"When pressing the OK key 21508 in a job ticket screen, a job utility screen as in FIG. 22 is displayed..."* column 15, line 12-13).

Takahashi '999 does not expressly disclose a print managing step of managing distribution printing in accordance with a designation executed in said designating step; wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print

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document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode.

Takahashi '245 discloses a print managing step of managing distribution printing in accordance with a designation executed in said designating step (*"It is another object of the present invention to provide an image processing apparatus and an image processing system and a **control method therefor**, an image data processing method, an image forming apparatus and **a control method therefor, a controller**, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs..."* column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..." column 2, lines 16-26);*

wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (*"The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are distributed to a plurality of image forming apparatuses for printing) where a plurality of output devices, that is, the MFP 104 or 105 or the printer 107 simultaneously print and output data based on a command from the document server 102. For example, of plural pages of printing data included in one group, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and output by the monochrome MFP 105."* column 25, lines 20-31);

and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode (See figures 26 & 35 *"When the result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not*

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*the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, **based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22** or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), **the color page-corresponding paper inserting mode is executed.** That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and **the color data are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device.**"* column 27, lines 54-67 thru column 28, lines 1-5).

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems (*"To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes..."* Takahashi '245 at column 3, lines 30-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding a print managing step of managing distribution printing in accordance with a designation executed in said designating step; wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; and executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently (*"...it is desirable to prevent inconveniences*

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such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently." Takahashi '245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi '999 with Takahashi '245 to obtain the invention as specified in claim 21.

Regarding claim 24; Takahashi '999 as modified does not expressly disclose wherein the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket.

Takahashi '245 discloses the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket (*"The user checks the setting contents and if they are correct, operates an OK key 1804 to transmit the printing job (including command data indicative of commands input by the user via the operation screens shown in FIGS. 20, 21, 22, and other figures, image data to be printed, and other data) directly to the document server 102. On receiving the printing job, the document server 102 controls the MFPs 104 and 105 to perform operations based on the commands from the user. To cancel the setting contents of the job ticket, the user can operate the cancel key 1805 to stop or suspend the process. The user can also make various settings for clustering, described later, as well as other settings (including various operation modes described later with reference to FIGS. 27, 28, 33, 35, 36, and other figures), using operation screens such as those shown in FIGS. 20, 21, and 22."* column 23, lines 53-67).

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems (*"To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes..."* Takahashi '245 at column 3, lines 30-36).

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding wherein the job ticket is reusable, and at least one of output layout information, additional information and monochromatic/color information included in the print instruction information described by the job ticket is changed to reuse the job ticket as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently ("*...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently.*" Takahashi '245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi '999 and Takahashi '245 to obtain the invention as specified in claim 21.

Regarding claim 25; Takahashi '999 discloses a computer-readable medium storing a computer program for a print managing method for a print managing apparatus which is connected to a plurality of printing apparatuses including a monochromatic printing apparatus and a color printing apparatus via a communication medium, said program comprising ("*It is evident that realization can be achieved by supplying to either the system or the apparatus, **the storage medium on which the program code of the software which realizes functions in the above-mentioned embodiment** (for example, processing shown in flow charts of FIGS. 16 and 24, related processing, job separation processing, job mixing processing, addition information add-on processing for sheets, guidance display processing for user and the like) is recorded, and **the computer (or CPU or MPU) of the system or the apparatus reads and executes the program stored inside the storage media.**" column 18, lines 12-22): See also (See Figure 1 where "*Further, **MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101.** Numeral 104 is a color **MFP capable of full color scanning, printing and the like.** Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-**

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mentioned MFP's such as scanners, printers, faxes or the like are connected to the network 101." column 3, lines 9-16); See also (*"Moreover, the computers 102 and 103 have utility softwares which function by receiving the information such that the MFP's 104 and 105 can be managed by the computers 102 and 103.*" column 3, lines 28-31):

a receiving step of receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the color MFP's 104 or the black/white MFP's 105 hanging from the network 101, each apparatus can be instructed to print a specific part of the job.*" column 15, lines 39-43):

designating step of designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document *"Here, the job color mode column 1506 is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.*" column 8, lines 50-55);

a reading step of reading the job ticket included in the print job received in said receiving step (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (*"The utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks...* column 14, line 59-60) (*"When pressing the OK key 21508 in a job ticket screen, a job utility screen as in FIG. 22 is displayed..."* column 15, line 12-13).

Takahashi '999 does not expressly disclose a print control step of controlling distribution printing in accordance with a designation executed in said designating step; wherein said print control step executes the distribution printing of the print document through the monochromatic

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printing apparatus and the color printing apparatus by analyzing the print document in the first mode; executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode.

Takahashi '245 discloses a print control step of controlling distribution printing in accordance with a designation executed in said designating step (*"It is another object of the present invention to provide an image processing apparatus and an image processing system and a **control method therefor**, an image data processing method, an image forming apparatus and **a control method therefor, a controller**, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs..."* column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..." column 2, lines 16-26);*

wherein said print control step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (*"The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are distributed to a plurality of image forming apparatuses for printing) where a plurality of output devices, that is, the MFP 104 or 105 or the printer 107 simultaneously print and output data based on a command from the document server 102. **For example, of plural pages of printing data included in one group**, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and output by the monochrome MFP 105."* column 25, lines 20-31);

executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode (See figures 26 & 35 *"When the*

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*result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, **based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22** or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), **the color page-corresponding paper inserting mode is executed**. That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and **the color data are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device.**" column 27, lines 54-67 thru column 28, lines 1-5).*

Takahashi '999 and Takahashi '245 are combinable because they are from same field of endeavor of network printer systems ("To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes..." Takahashi '245 at column 3, lines 30-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 by adding a print control step of controlling distribution printing in accordance with a designation executed in said designating step; wherein said print control step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode as taught by Takahashi '245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for

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the operator, and allow the operator to work more efficiently (“...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently.” Takahashi ‘245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi ‘999 with Takahashi ‘245 to obtain the invention as specified in claim 25.

Regarding claim 26; Takahashi ‘999 discloses a computer-readable medium storing a computer program for a print system including a print managing apparatus and a plurality of printing apparatuses including a monochromatic printing apparatus and a color printing apparatus connected via a communication medium, the computer program comprising (“It is evident that realization can be achieved by supplying to either the system or the apparatus, **the storage medium on which the program code of the software which realizes functions in the above-mentioned embodiment** (for example, processing shown in flow charts of FIGS. 16 and 24, related processing, job separation processing, job mixing processing, addition information add-on processing for sheets, guidance display processing for user and the like) is recorded, and **the computer (or CPU or MPU) of the system or the apparatus reads and executes the program stored inside the storage media.**” column 18, lines 12-22): See also (See Figure 1 where “Further, **MFP's (Multi Functional Peripheral) 104 and 105 are connected to the network 101. Numeral 104 is a color MFP capable of full color scanning, printing and the like. Numeral 105 is a black and white MFP, performing monochromatic scanning, printing and the like. In addition, although not shown, machines other than the above-mentioned MFP's such as scanners, printers, faxes or the like are connected to the network 101.**” column 3, lines 9-16); See also (“Moreover, the computers 102 and 103 have utility softwares which function by receiving the information such that the **MFP's 104 and 105 can be managed by the computers 102 and 103.**” column 3, lines 28-31):

a receiving step of receiving a print job which includes a job ticket and a print document via the communication medium, the job ticket describing print instruction information for the print document [See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 is a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive

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a print instruction information for the print document (“...using the printer driver tab as in FIG. 22, by selecting which apparatus to use among the **color MFP's 104** or the **black/white MFP's 105** hanging from the network 101, each apparatus can be instructed to print a specific part of the job.” column 15, lines 39-43);

designating step of designating one of a plurality of distribution printing modes including a first mode and a second mode in response to a user instruction (See Fig. 15, #1506, where a user may choose from a different modes for instructing an MFP to print a document “Here, the **job color mode column 1506** is capable of selecting one mode among automatic separation, manual separation, all color pages or all black/white pages. In the case of manual separation, for each page, the user can select from which MFP (color MFP 104 or black/white MFP 105) to discharge.” column 8, lines 50-55);

a reading step of reading the job ticket included in the print job received in said receiving step (See Fig. 21 where FIG. 21 is a view showing a screen example of a job ticket. See also Fig. 22 where FIG. 22 has a job utility screen that may be read by computers 103 and 102. Fig. 22 is also a view showing a screen example of a printer driver where the print driver selects an MFP on the network that may receive a print instruction information for the print document (“The utility software is a program which can be read by the computers 103 and 102 and is recorded on hard disks... column 14, line 59-60) (“When pressing the OK key 21508 in a job ticket screen, a job utility screen as in FIG. 22 is displayed...” column 15, line 12-13).

Takahashi ‘999 does not expressly disclose a print managing step of managing distribution printing in accordance with a designation executed in said designating step; wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode.

Takahashi ‘245 discloses a print managing step of managing distribution printing in accordance with a designation executed in said designating step (“It is another object of the present

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*invention to provide an image processing apparatus and an image processing system and a **control method therefor**, an image data processing method, an image forming apparatus and **a control method therefor, a controller**, and a storage medium storing programs for executing the methods, wherein images are processed depending on printing attributes of the image forming apparatus and printing jobs are distributed to a plurality of image forming apparatuses depending on the printing attributes to enable a large amount of printing jobs to be efficiently carried out with low running costs...*" column 2, lines 16-26); See also (*"...in this mode, printing data output from a single source of image data are distributed to a plurality of image forming apparatuses for printing.), and transfers the printing job to the second NEC 112 or/and the exclusive I/F 113. In this case, the output device control section 1206 monitors a state of the output device or devices to obtain a device status. ..."* column 2, lines 16-26);

wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode (*"The present image forming system, however, **can execute cluster printing** (a mode where printing data from a source of image data such as the document server 102, the client 103, or the scanner 106 are distributed to a plurality of image forming apparatuses for printing) where a plurality of output devices, that is, the MFP 104 or 105 or the printer 107 simultaneously print and output data based on a command from the document server 102. **For example, of plural pages of printing data included in one group**, color data can be printed and output by the color MFP 104, while black-and-white data can be printed and output by the monochrome MFP 105."* column 25, lines 20-31);

executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode (See figures 26 & 35 *"When the result of the determination at the step S3205 is negative (No), the process proceeds to a step S3206 to determine whether or not the setting mode contained in the command data obtained from the printing requester such as the client 103 is a color page-corresponding paper inserting mode, **based, for example, on the contents of the command data input by the user via the setting item section 1802 on the job ticket screen shown in FIG. 22** or via another section. If the result of the determination is negative (No), the process of the present program is immediately terminated. On the other hand, if the result of the determination at the step S3206 is affirmative (Yes), **the color page-corresponding paper inserting mode is executed**. That is, the printing job with color data and black-and-white data mixed therein is split into the color data and the black-and-white data, and **the color data***

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are printed and output by the output device capable of outputting color output data, while as many sheets of recording paper as the color pages are output from the monochrome output device.” column 27, lines 54-67 thru column 28, lines 1-5).

Takahashi ‘999 and Takahashi ‘245 are combinable because they are from same field of endeavor of network printer systems (“*To attain the above objects, in a first aspect of the present invention, there is provided an image processing apparatus which selects at least one image forming apparatus from a plurality of image forming apparatuses including at least two types of image forming apparatuses having different printing attributes...*” Takahashi ‘245 at column 3, lines 30-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi ‘999 by adding a print managing step of managing distribution printing in accordance with a designation executed in said designating step; wherein said print managing step executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus by analyzing the print document in the first mode; executes the distribution printing of the print document through the monochromatic printing apparatus and the color printing apparatus based on the print instruction information described by the job ticket read in said reading step in the second mode as taught by Takahashi ‘245.

The motivation for doing so would have been because it is advantageous to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently (“*...it is desirable to prevent inconveniences such as complicated operations required of an operator, generate desired data for the operator, and allow the operator to work more efficiently.*” Takahashi ‘245 at column 5, lines 1-2).

Therefore, it would have been obvious to combine Takahashi ‘999 with Takahashi ‘245 to obtain the invention as specified in claim 26.

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6. **Claims 5, 16, 18, 19, 22 & 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi '999 and Takahashi '245 as applied to claim 1 above, and further in view of Hertling (US 6,874,034 B1 hereinafter, Hertling, '034).

Regarding claim 5; Takahashi '999 and Takahashi '245 does not expressly disclose wherein the print instruction information described by the job ticket is described by a markup language.

Hertling '034 discloses wherein the print instruction information described by the job ticket is described by a markup language (*"Turning now to FIGS. 6 and 7, the print job ticket processing logic 500 will be described in greater detail. Starting at block 502, the print job ticket processing logic 500 receives a print job ticket 303. Next, the print job ticket 303 is parsed, or decoded, in block 504 to determine the content of the print job ticket 303. As is known in the art, the print job ticket 303 can contain a plurality of fields. Each field respectively contains data readable by the queue server 109. The data can be in a suitable format, such as extensible markup language (XML) or simply a binary word that represents an item of information related to the print job. The print job ticket processing logic 500 is programmed to identify the data contained in each."* column 9, lines 62-67 thru column 10, lines 1-7).

Takahashi '999 and Takahashi '245 are combinable with Hertling '034 because they are from same field of endeavor of network printer systems (*"The present invention is generally related to the field of network printing and, more particularly, is related to a system and method for network printing using a peer hybrid printing protocol."* Hertling '034 at column 1, lines 5-8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printer system as taught by Takahashi '999 and Takahashi '245 by adding wherein the print instruction information described by the job ticket is described by a markup language as taught by Hertling '034.

The motivation for doing so would have been because it is advantageous for the reason that the peer-to-peer approach does not facilitate centralized printer control, queuing or

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prioritizing print jobs, tracking printer or job statistics, and the like (*"When the print server is ready to receive data, the operating system in the client transmits the print job to the print server. The print server then applies the print job to the printer for printing. Although, the peer-to-peer printing approach only requires the entire document to be transmitted on the network once, the peer-to-peer approach does not facilitate centralized printer control, queuing or prioritizing print jobs, tracking printer or job statistics, and the like."* Hertling '034 at column 2, lines 7-14).

Therefore, it would have been obvious to combine Takahashi '999 and Takahashi '245 with Hertling '034 to obtain the invention as specified in claim 1.

Regarding claim 16; Hertling '034 discloses wherein the print instruction information described by the job ticket is described by a markup language (*"Turning now to FIGS. 6 and 7, the print job ticket processing logic 500 will be described in greater detail. Starting at block 502, the print job ticket processing logic 500 receives a print job ticket 303. Next, the print job ticket 303 is parsed, or decoded, in block 504 to determine the content of the print job ticket 303. As is known in the art, the print job ticket 303 can contain a plurality of fields. Each field respectively contains data readable by the queue server 109. The data can be in a suitable format, such as extensible markup language (XML) or simply a binary word that represents an item of information related to the print job. The print job ticket processing logic 500 is programmed to identify the data contained in each."* column 9, lines 62-67 thru column 10, lines 1-7).

Regarding claim 19; Hertling '034 discloses further comprising a print client, wherein the print client transmits the print job to the print managing apparatus (*"The client 106 then generates a print job ticket 303 that includes the address of the client 106 on the network 103, the name or identification of the full print job, and any other pertinent information such as the number of pages to be printed, etc. The client 106 then transmits the print job ticket 303 to the queue server 109. The queue server 109 places the print job ticket 303 in a printing queue maintained in the queue server 109. The queue server 109 then transmits a printer polling message 304 to the print server 113 to determine if the printer 116 is available to print a document. The print server 113 responds with the printer response message 306 that informs the queue server 109 that the printer 116 is busy printing or is available. If the printer 116 is occupied with another print job, the queue server 109 waits for a period of time and then retransmits the printer polling message 304. If the printer 116 is available, the queue server 109 then transmits the print job ticket 303 to the print server 113."* column 5, lines 24-41).

Regarding claim 23; Hertling '034 discloses wherein the print client transmits the print job to the print managing apparatus ("*The client 106 then generates a print job ticket 303 that includes the address of the client 106 on the network 103, the name or identification of the full print job, and any other pertinent information such as the number of pages to be printed, etc. The client 106 then transmits the print job ticket 303 to the queue server 109. The queue server 109 places the print job ticket 303 in a printing queue maintained in the queue server 109. The queue server 109 then transmits a printer polling message 304 to the print server 113 to determine if the printer 116 is available to print a document. The print server 113 responds with the printer response message 306 that informs the queue server 109 that the printer 116 is busy printing or is available. If the printer 116 is occupied with another print job, the queue server 109 waits for a period of time and then retransmits the printer polling message 304. If the printer 116 is available, the queue server 109 then transmits the print job ticket 303 to the print server 113.*" column 5, lines 24-41).

Regarding claim 23; Hertling '034 discloses wherein the print client transmits the print job to the print managing apparatus ("*The client 106 then generates a print job ticket 303 that includes the address of the client 106 on the network 103, the name or identification of the full print job, and any other pertinent information such as the number of pages to be printed, etc. The client 106 then transmits the print job ticket 303 to the queue server 109. The queue server 109 places the print job ticket 303 in a printing queue maintained in the queue server 109. The queue server 109 then transmits a printer polling message 304 to the print server 113 to determine if the printer 116 is available to print a document. The print server 113 responds with the printer response message 306 that informs the queue server 109 that the printer 116 is busy printing or is available. If the printer 116 is occupied with another print job, the queue server 109 waits for a period of time and then retransmits the printer polling message 304. If the printer 116 is available, the queue server 109 then transmits the print job ticket 303 to the print server 113.*" column 5, lines 24-41).

Examiner Notes

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7. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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